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The researcher as instrument: learning to conduct qualitative research through analyzing and interpreting a choral rehearsal

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Qualitative researchers often describe the ambiguities and complexities of extracting meaning from ambiguous and complex data. Although methodological literature provides useful frameworks and heuristics to guide the process of transforming field data into credible findings, learning to analyze and interpret qualitative data also involves a transformation of the researcher as the primary instrument for making sense of the phenomenon under study. This pedagogical action research study involved a 'case within a case', in which graduate students, enrolled in a qualitative research class in music education, analyzed and interpreted data from a high school choral rehearsal captured on digital video. This study sought to answer these questions: what pedagogical moves and exercises enable beginning qualitative researchers to practice and refine the skills of data analysis? What pedagogical moves and exercises foster the development and refinement of interpretive perspectives? Implications for teaching qualitative research methods using case materials drawn from music classrooms are described.

Introduction

The process of conducting qualitative research depends upon a series of transformations. Qualitative researchers seek to understand the phenomenal world through the study of events, actions, talk, and interactions, and when the context of study is a music classroom, through sound and gesture as well. Denzin and Lincoln characterize the interpretive nature of qualitative inquiry by explaining that 'qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible' (Denzin & Lincoln, 2000, p. 3). The first transformations involve creating representations of the phenomenal world through data generation, which is an 'active, creative, and improvisational process' (Graue & Walsh, 1998, p. 91). In the field, the researcher conducts observations and interviews and gathers documents and artifacts that illuminate the phenomenon under study. Since the researcher's

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perceptual acuity in observation and finely developed capacity for eliciting detail from respondents are paramount, the concept of the *researcher as instrument* is prevalent in qualitative literature. This concept accentuates the distinctive function of the researcher's knowledge, perspective, and subjectivity in data acquisition. A second transformation occurs when the 'raw' data generated in the field are shaped into data records by the researcher. These data records are produced through organizing and reconstructing the researcher's notes and transcribing audio and video recordings in the form of permanent records that serve as the 'evidentiary warrants' of the generated data (*ibid*, p. 142). The researcher strives to capture aspects of the phenomenal world with fidelity by selecting salient aspects to incorporate into the data record. Working with the data records leads to a third transformation, in which the researcher analyzes the data, develops descriptive codes for patterns in the data, and inductively generates larger themes that emerge from iterative passes through the records. These transformations also involve interpreting what the data mean, and relating these interpretations to other sources of insight about the phenomena, including findings from related research, conceptual literature, and common experience. Data analysis and interpretation are often intertwined and rely upon the researcher's logic, artistry, imagination, clarity, and knowledge of the field under study. The final research report reflects primary evidence of the phenomenon interwoven with the researcher's reasoned interpretation of the phenomenon (Graue & Walsh, 1998).

Learning to conduct qualitative research also involves transformations, but of the researcher's understanding rather than the data. Josselson, Lieblich, and McAdams assert that the teaching of qualitative research is 'an inductive process that involves shaping the instrument of research, the researcher, as a medium for the discovery and interpretation of meanings' (Josselson *et al*., 2003, p. 4). Mullen portrays the process of learning to conduct qualitative research as 'a developmental journey of becoming … at conceptual, emotional, ethical, and aesthetic levels' (Mullen, 2000, p. 9). Students in qualitative research courses often confront deeply held assumptions about research, frequently by juxtaposing what they know about research in positivist terms with their emerging understanding of interpretive paradigms. In the midst of these epistemological tensions, students need meaningful experiences that will prepare them to conduct independent inquiry. The implications of this transformation for course construction are significant. Viewing the graduate student in qualitative methods courses as an instrument of research shifts the instructional emphasis from knowing about the processes and traditions of qualitative research, to the development and refinement of the beginning qualitative researchers' concept of research and their engagement in it. This demands highly individualized instruction, guidance, and ongoing assessment.

The content of qualitative research methods courses varies widely, but typically includes emphases on learning *about* qualitative research through the study of foundational literature and texts that situate the paradigm within interpretivist traditions (e.g., Creswell, 1998; Bogdan & Biklin, 2003; Glesne, 2006). Other common features of methods courses include the study and analysis of exemplars

through reading and discussing selected studies and dissertations. Since many graduate students are more familiar with quantitative than qualitative studies, such close readings are especially important.

Even within the limitations of relatively short academic terms, qualitative courses must also introduce students to the processes of *conducting* research by directly engaging students in generating, analyzing, and interpreting data in order to gain skills, competence, and most of all, the necessary feel of doing qualitative work. In music education, for example, students may elect to conduct a qualitative study for their dissertation after just one term of study, making this course a critical period of preparation for later work. Typical strategies for engaging students in qualitative processes include the use of class simulations or methodological projects for practicing techniques. Janesick (2004) uses dance as a metaphor to suggest that 'stretching exercises'—short data generation and analysis assignments implemented within the context of a research methods class—develop flexibility and skill for beginning researchers in ways that translate into more comprehensive projects. Collaborative class projects are another strategy to practice qualitative techniques and to foster multiple interpretations of data by establishing a collegial 'interpretive zone' (Wasser & Bresler, 1996). Assigning students to conduct individual research projects, using class time as a seminar to address issues and problems encountered in the field, is another way to organize methods courses. Mullen (2000) speaks of the constraints and challenges of teaching qualitative research methods in the compressed and artificially constrained time frame of a short research course, particularly if students must seek approval from institutional review boards before launching their projects.

Teaching data analysis and interpretation

Qualitative researchers often describe the ambiguities and complexities of extracting meaning from ambiguous and complex data. Of the transformations described thus far, data analysis and interpretation are particularly difficult to teach. Qualitative data generation usually results in a substantial body of data to be analyzed. Data analysis can be both deductive (applying extant categories to data) or inductive (deriving categories from the data), although inductive analysis is more common. In research reports, descriptions of data analysis are often terse and telegraphic, giving a limited window on the actual process of sorting and sifting the voluminous array of transcripts, field notes, data records, and documents. Glesne (2006) calls this phase of analysis 'entering the code mines', a term used by one of her students to convey the arduous, dark, and mysterious character of the process. Although textbook descriptions of examining the data, looking for patterns, finding relationships and categories seem quite straightforward, data analysis is rarely formulaic, relying instead on the researcher's abilities to perceive and describe obvious patterns and themes, as well as subtleties, perplexities, contradictions, and nuances in the data.

Teaching interpretation, or making sense of the data, is similarly challenging. The way interpretation is described in the methodological literature gives some sense

of how difficult it is to guide the beginning researcher's efforts. Peshkin (2000) describes interpretation as a 'blend of imagination and logic' (p. 9), and describes how the researcher's sensibilities are inextricably bound within the 'interplay of subject and object, self and problem' (p. 5). Denzin and Lincoln (2000) echo a similar theme in describing qualitative work as 'endlessly creative and interpretive' and underscore that these 'interpretations are constructed' (p. 23). In a well-crafted research report, the researcher's findings are presented as a well-organized blend of descriptive detail and first person accounts, substantive themes and cogent analysis, and connections of the findings to broader issues and questions found in related research, conceptual literature, and practical experience. Again, although there are useful overviews of the function of interpretation in qualitative research, and available examples of skillfully interwoven interpretations, few pedagogical strategies address how beginners learn to interpret and how instructors might provide frameworks for developing interpretative capacities.

The purpose of this study is to describe the pedagogical moves and resultant insights of graduate students learning to analyze and interpret qualitative data. The questions that guided this project include: what pedagogical moves enable beginning qualitative researchers to practice and refine the skills of data analysis? What pedagogical moves foster the development and refinement of interpretive perspectives? These questions reflect the dual focus of this project in developing a useful framework for teaching these processes while assessing students' emerging use of the processes.

The setting

The context of the study was a 10-week course, qualitative research in music education (QRME), in which seven students were enrolled. Four of these students were doctoral students in music education, one was a doctoral student in viola performance, and two were master's students in music education. All seven students had previously completed an introductory research methods course that thoughtfully attended to the commonalities and distinctive features of quantitative and qualitative approaches to research in music education. During this term, students read and analyze representative studies and complete a research proposal as a 'capstone' project. Doctoral studies continue their study in two specialized courses, one focused primarily on qualitative and the other on quantitative research. Masters students may elect either advanced course. The QRME course met once a week for 10 weeks, each class period lasting nearly three hours.

After teaching QRME only once before, I resolved to tip the balance from my previous emphasis on learning *about* qualitative research to active engagement *in* qualitative research. I also was inspired by the notion that the pedagogical design and structure of a course could itself be an expression of artistry, and that research in music education could draw upon musical forms to organize insights and under-standing (Bresler, 2005). I also built upon Janesick's use of choreography as a metaphor for stretching exercises to build confidence and flexibility in qualitative

research courses, designing a series of class exercises that I more aptly thought of as études, combined in a multi-movement musical work. A videotaped segment of a choral rehearsal from a high school in Whitefish Bay, Wisconsin, served as the primary thematic material for this pedagogical series. A five-part class project was designed to provide a topical focus for our discussions; give students practice in generating tangible and relevant data; and provide a coherent sequence of themes and processes that culminated in the writing of a short analysis and interpretation paper. The 'capstone' project was the completion of a pilot study, and I intended for this class exercise to provide a guided experience with data generation, analysis, and interpretation that would translate smoothly into the students' independent work.

I was also captivated by the power of videocases to serve as a focal point for discussion and practice, and by the use of digital video as a context for the manipulation and analysis of data. Although full featured qualitative data analysis software programs are available (Fassnacht & Woods, 2005), the use of simple digital video editing software was perfectly suitable for the needs of this project. Spiers (2004) maintains that qualitative analysis software is really unnecessary for most research purposes, and that iMovie allows the user to practice analyzing digital video data with relative ease. One of the primary ways to make the process more tangible and concrete is to use data that most closely represent the lived experience of the research participants. Digital video data for interviews and classroom observations preserves the inflections, gestures, positions, and pacing that are often lost when transcribing only the verbal content of events. When studying music teaching and learning, video also allows musical data, the sound itself, to be studied and analyzed in close proximity to classroom talk about the music. In an important practical sense, digital video analysis also speeds up the time needed for qualitative work, since data are represented as video segments rather than as transcribed protocols. This, essentially, shortens the analytical process, a practical benefit within the compressed schedule of a 10-week instructional term.

Pedagogical moves: the five-part 'Whitefish Bay' sequence

Five weeks of the course were devoted primarily to class work that centered on the following sequence, which is also represented in Figure 1 to show the relationship to the assessments and to the application of the process to the students' final pilot research projects. Although we also read, analyzed and discussed other literature, participated in another research project that involved conducting structured observations in the field, and allowed time for student presentations of their pilot projects, the Whitefish Bay videocase was used as a major structural component for QRME. It represents a case within a case, with the focused study of a high school choral rehearsal as a meaningful context for examining how beginning qualitative researchers practice their craft.

The videocase was also selected because it challenged normative classroom interactions. Traditional rehearsal settings are teacher-driven and governed by
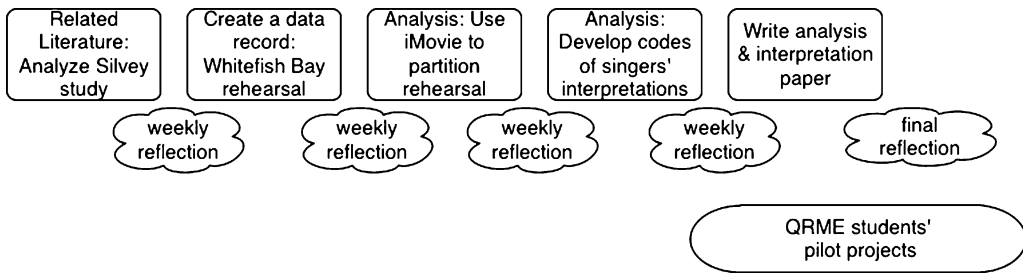
Figure 1. Five-Movement Sequence

powerful routines that position interpretive decision-making as the primary province of the conductor. O'Toole (1994) analyzed these robust routines from a critical perspective, claiming that 'the conventions of choral pedagogy are designed to create docile, complacent singers who are subjected to a discourse that is more interested in the production of music than in the laborers' (p. 65). Choral ensemble settings offer particularly rich opportunities for the realization of constructivist practices in which students are given more responsibility for musical decision-making. Snow and Apfelstadt (2002) describe how traditional rehearsal models can be disrupted and reconfigured, leading toward the vision that 'the choral classroom of the twenty-first century can be a site of deep learning, as well as a powerful vehicle for student expression' (p. 214). The artistic nature of choral repertoire is a marriage of text and the composer's musical setting of that text; to perform choral works with under-standing, the teacher and students construct a shared meaning of the text. Uncovering textual meaning depends upon the singers' comprehension of the literal meanings of the words themselves, which deepens when more nuanced study of the expressive characteristics of the text through poetic analysis is used. Further, the teacher and students must consider how the composer has set that text to music, and determine how the performance of the work will amplify these interrelated dimensions. In a constructivist choral classroom, the teacher engages students in reflective dialogue to derive multiple meanings of the text, relate those meanings to compositional technique, and from that knowledge, choose from multiple possibilities for inter-pretation. As the Whitefish Bay rehearsal segment exemplified many of these learning principles, I was confident that the material for analysis would be meaningful and relevant, and the time we spent in the five-movement exercise would be well spent.

Week 1: analysis of a related case study

The first pedagogical move engaged students in reading and analyzing a qualitative case study, which was thematically and conceptually related to the choral rehearsal that would serve as the focal case in subsequent weeks. Philip Silvey's study of three choral singers and the ways they interpret the work they are learning to perform, Benjamin Britten's *Rejoice in the Lamb*, served as an opening prelude. The purpose of

Silvey's study aligned well with my pedagogical purposes: 'to bring to light the individual experiences and perceptions of three high school singers as they learned to perform a choral composition. What is the nature of a student's perceived experience in relation to a choral composition being learned for performance?' (Silvey, 2005, p. 102). Silvey observed high school singers in rehearsal. His analysis centered on three categories of knowledge the singers formed as they learned and interpreted Britten's choral work: impression or propositional knowledge; construction or procedural knowledge; and understanding or acquaintance knowledge. The QRME students read and discussed the content and structure of Silvey's study, commenting on the multidimensional aspects of interpreting text and music in choral works.

Week 2: introduction to the focal case

The focal case was the Whitefish Bay High School choral rehearsal (captured on digital video), in which the choral director skillfully guided the singers in a discussion of the textual meanings of the work *When David Heard* by Norman Dinerstein. For practice and to introduce the complexities of observation, students generated field notes while watching the digital video of the rehearsal conducted by Randal Swiggum.[1] The text is drawn from the Old Testament: II Samuel, 18:33, in which King David expresses his profound grief upon learning that his son Absalom has been slain.[2] Swiggum led the singers in an extended discussion of the meaning of the text for a seven measure (bar) section in the middle of the work (Figure 2).

In this passage, Dinerstein sets the words 'and wept' in descending intervals of a seventh, and in many textures across the soprano, alto, tenor, and bass parts. Swiggum began by asking the singers to perform the segment in its entirety before advising them 'let's make it less about notes and more about words … more about meanings behind words'. His direction marks a pivot in the rehearsal in two ways: from conductor-led strategies to student discussion of the text, and also from an accurate rendering of the score to the interpretive shaping of it. During an 11-minute period of discussion, 10 students forward interpretive ideas to Swiggum and to their fellow singers, occasionally building upon one another's ideas. Digital video allowed the singers' talk about the music to be followed contiguously with the actual performance of the excerpt, so that we could clearly see how the verbalized ideas about the piece were realized in sound. QRME students generated field notes using two columns for descriptive and reflective comments. They also took notes on an interview conducted with Swiggum shortly after the rehearsal in which he addressed his teaching beliefs and practices.

Week 3: preliminary analysis of the video using iMovie

I divided students into two groups, each equipped with a Macintosh loaded with a copy of the rehearsal video. The students were asked to review the rehearsal, and

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Figure 2. Excerpt from *When David Heard* (Dinerstein). © 1977, Boosey & Hawkes, Inc. Reproduced by permission of Boosey & Hawkes Music Publishers Ltd.

then use iMovie to mark significant segments of the video and to group those segments together as a preliminary step in analysis.

Students identified passages in which Swiggum probed the singers' affective responses to the text and expressive musical gestures in the choral work. They also identified meaningful segments of the video and placed related segments together in iMovie's tray to build a descriptive overview of the rehearsal (Figure 3). Finally, the students were asked to represent their preliminary analysis in a conceptual map or overview of the rehearsal in visual form.

Week 4: coding using iMovie; coding using cut and paste techniques

Although the preliminary analysis gave students an opportunity to think about the structure of the rehearsal, and the exchanges between Swiggum and the students, I wanted them to concentrate on the kinds and types of interpretive responses that the singers offered as they explored different ways to perform the choral work to enhance the meaning of the text (hoping to parallel Silvey's focus on the interpretative capabilities of high school students). In preparation for this week's exercise, I extracted only the singers' responses as separate clips for students to code and analyze (Figure 4). During the methods class, students worked in the same teams again to develop a coding map of these responses. As I observed and listened to the groups, I decided that it was necessary to model how this coding process might be developed inductively, so I went through each one of the clips and led discussion of possible options for coding and categorizing responses.

I also distributed a handout with Silvey's categories of knowledge, so that students could see how these categories could be used deductively as a framework for analyzing the singers' responses as well. As qualitative analysis often involves manipulating transcribed verbal data, I also provided transcripts of Swiggum's

Figure 3. Use of iMovie to partition the rehearsal into meaningful segments

Figure 4. Coding singers' interpretations using iMovie

interview that students segmented and coded as they worked in pairs in a more humble 'cut and paste' fashion typical of qualitative work.

Week 5: the analysis and interpretation paper

Finally, I asked students to prepare a short analysis and interpretation paper based on our class exercises. We identified two central questions to answer: in what ways do the singers interpret or make meaning of the music they are learning to perform? and how does the teacher establish an environment for this interpretation? To parallel the breadth of data that qualitative researchers draw upon as they analyze and interpret, the QRME students were encouraged to use any of the materials and ideas we had generated or examined in previous weeks, including data records of the rehearsal, diagrams of the structure of the rehearsal, codes developed for singers' interpretations, my coding scheme, Silvey's categories of understanding and his literature review, and the transcripts of the rehearsal and interview with Swiggum. Borrowing from Silvey's literature review, while quite unorthodox in the typical conduct of research projects, was offered as an expeditious way for students to draw some implications from their findings to the literature (without expending library time

conducting a literature search just for this class exercise). Students submitted their analysis and interpretation papers for my comments.

Final reflections on the Whitefish Bay exercise

At the end of the course, I asked students to review their notes on the exercise and to submit a final reflection. I also looked for evidence that the analysis and interpretation exercise contributed to the quality of their final pilot projects, which were evaluated separately from the five-part exercise.

Assessment techniques

Assessment techniques included my observation of group work and class discussions, weekly reflections in which students answered a series of questions about the previous week's exercise, and analysis of their brief Whitefish Bay papers. In addition, I also provided detailed comments on their final pilot projects, and spoke with several of the students informally about what they had learned from the project. One of my ancillary goals was to model a process of teaching qualitative research techniques for doctoral students who might soon be teaching similar courses on their own. Accordingly, I encouraged the doctoral students to think about the pedagogical implications of this work at the same time as they participated in it. Data analysis for this study was relatively straightforward as I reviewed my weekly notes, students' weekly reflections, final reflections, and short analysis and interpretation papers, developing codes and themes from the data. QRME students were provided with a draft of this paper for reading and comments.

Findings and insights

This project provided ample evidence of the complexities of teaching qualitative analysis and interpretation, and particularly, how the processes of learning to think analytically and interpretively are challenging for novice researchers. I will first describe how students' evolving understanding of the complexities of data analysis were prompted by the five-part exercise before addressing similar themes related to interpretation of the data. Excerpts from student responses are provided in italics.[3] The paper concludes with comments about students' evolving perspectives as qualitative researchers and recommendations for further work.

Pedagogical moves to prompt data analysis

The first week's reading of Silvey's study provoked students' interest in conceptual issues related to the choral students' understanding during ensemble rehearsals. They raised methodological questions about time in the field, and how Silvey formed the three categories of impression, construction, and understanding. The second

week's exercise in generating field notes while watching the Whitefish Bay rehearsal video brought new appreciation for the difficulty of capturing data from the videocase, and turning that data into useful fieldnotes. This response captures this realization:

> *The actual practice of taking notes was most helpful in that it made me acutely (painfully) aware of the inherent difficulties, especially in "real time" and with the limited scope of the camera lens. The practice reinforced the importance of recording an observation for which greater detail is necessary. One time through an event is simply not enough to glean as much as possible from the experience.*

The challenges of analyzing the structure and interactions between the teacher and choral students became particularly evident in the third week. The use of the video for partitioning the rehearsal gave students a concrete and tangible work space to test ideas, allowing them to move back and forth from the entire excerpt to segments of interest and back again to the whole. In response to the partitioning and mapping exercise for week 3, one student wrote that the exercise '*was helpful in that in made the video data more concrete and adaptable to coding. I enjoyed being able to manipulate the data in such a hands-on way*'. The maps reflected the pivotal turn in the rehearsal from teacher-directed practices to student-generated comments.

The use of small groups proved to be especially valuable. The students' initial analytical moves were offered tentatively, bringing to mind the observation of Mullen (2000, p. 11) that the analytical process 'can elicit feelings of ambivalence, uncertainty, and flux in such sensitive areas as researcher identity and belief systems'. Peers provided an important forum for entertaining alternate schemes, and the social atmosphere scaffolded the analytical process and brought clarity to the QRME students' understanding of the rehearsal videocase. One student described the synergy of the group process: '*Our discussion was invigorating as we bounced ideas and opinions off of one another. I believe group work helps in gaining a deeper understanding of observation*'. Another spoke of the way that the group tempered the rush to judgment: '*I tend to "jump" at one thought—working with a group helped me to slow down and think through possibilities*'.

Students' interactions also provided opportunities for comparing analytical commonalities and differences, and realizing that the assignment of descriptive categories requires logic, keen attention, and imagination:

> *analyzing the video made me much more aware of the challenge in discovering the structure (obvious or subtle) of an event. It became obvious that the structure is created by those observing and it was interesting to compare findings of each group.*

In turn, emerging ideas (and the students who generated them) received validation and support, even leading to the playful coining of a new term: '*We were able to receive either validation/agreement or a request to further elaborate on an ambiguosity (the word comes in the spirit of philosopher/work/creation)*'. Students also learned that the analytical process is not haphazard or idiosyncratic: '*One of the most relevant lessons*

to come from the exercise was that regardless of one's approach, similar themes emerge when there is thoughtful reflection on a subject' (final reflection).

In the analysis and interpretation papers, there was roughly an equal division of students who chose to apply Silvey's categories deductively to the singers' comments, and those who used the coding categories that were inductively developed and refined through the group process. These papers demonstrated that the QRME students could select and describe meaningful instances in the rehearsal that illustrated the diverse ways that singers interpreted the text.

Pedagogical moves for interpretation

For this exercise, students drew from many sources to construct interpretations of the rehearsal, noting what was meaningful and explaining why. Just as they would in a 'real' study, the students had many types and sources of data to draw upon in writing up these short practice papers. One student described how she drew upon these varied sources to create a coherent overview of the rehearsal:

> *The initial discussion that we had in small groups provided the foundation. The fact that we had to draw a coding map, and had already worked with RS's interview—it all provided the background for final synthesis in the write up so that I was able to put the pieces together at the end.* (Week 4 reflection)

Another student commented on his use of studies he had read as models for blending the data with relevant commentary: '*I reflected back to other dissertations and thought about what made them stand out. I tried to incorporate some of these ideas into my writing*' (week 4 reflection).

Still, even with the relative richness of the data and the intriguing atypical choral rehearsal to examine, uncertainty about the interpretive voice surfaced:

> *I don't feel that I have a handle yet on the process or strategies by which to arrive at an interpretation . . . I don't know if I'm comfortable enough yet to trust myself to arrive at the "right" conclusions, or at least conclusions and interpretations of a significant and insightful depth.* (Final reflection)

Peshkin (2000) describes the interpretative process as a series of decision points that involve 'interpolating and extrapolating, judgment-making and assuming, doubting, and affirming' (p. 5). In order to forward a defensibly grounded account of a phenomenon of interest, the researcher must weave cogent commentary, reflections, and references to the literature with illustrative data excerpts. This requires trusting one's thinking and making that thought process explicit.

Just as themes emerge from the data, so does the researchers' confidence emerge from doing the work and reflecting on it, key aspects of developing the researcher as instrument. '*I need to see/understand that my reactions and interpretations are valid because I see them. There is a definite confidence thing going on for me and this exercise helped me feel more secure—iMovie helped*' (week 4 reflection). Students grappled with subjectivity, and drawing on personal knowledge to forward an understanding of the

rehearsal: '*There is so much discovery involved in this, and it seems so personal, depending upon what each of us is studying*' (week 3 reflection).

Two lengthier excerpts from the final reflections most tangibly characterize these shifts in perspective. A particularly illustrative entry was written by one of the two master's students in the class, who reported a significant intellectual transformation:

> [An aspect] of the course that changed my perspective was the idea of subjectivity and honesty. I came here wanting to do everything right. I wanted to see how it should be done, learn that, and do it. In almost every class I find that's almost never the expectation. I have had to dig deep to find my own opinions and bring them out of hiding. Now when I attempt something, I acknowledge what I think, take in the new information, and think about how it changes or reaffirms my beliefs.

In another passage, she related her own research interests in teacher development and identity to her emerging sense of competence as a qualitative researcher:

> I have read a lot about the ways people move through the learning/improvisation/teacher identity process. First we deal with ourselves, the physical ways we go about things, then we start to be concerned with the quality of the processes of what we are doing, and then we start to care about the product or how the world is affected by what we do. In qualitative research, I am still way back in the first phase. I was consumed by the idea of how I was going about what needed to be done. In that way, I felt overwhelmed compared to some of my classmates. I wanted to watch someone go through the process of analyzing and interpreting. When I worked with [my peers] on the video clip, I felt inexperienced, but sitting back and watching them go through that process was quite helpful, and even though I didn't assert my opinions, I benefited from being able to take in and summarize what they did.

Peer modeling allowed this student to observe peers as they generated descriptions, chose relevant data, categorized and organized information, and revised and refined an analytical framework. She drew from teacher development studies analogically to appraise her level of understanding, and as she pushed forward, found a new sense of confidence in offering her own ideas.

A doctoral student's summary comments further convey the notion that qualitative researchers shape themselves 'as a medium for the discovery and interpretation of meanings' (Josselson *et al.*, 2003, p. 4). She had already gained considerable experience conducting quantitative studies, and keenly felt tensions in the way she defined essential concepts of research. Her work in QRME prompted a deeper understanding of the complementary nature of quantitative and qualitative study, and their essential distinctions. She uses a metaphor of 'lenses' to characterize this complementarity:

> I think that I've learned that the "messiness" of learning qualitative analysis and interpretation can't be understood any other way than by doing it. You, as the researcher, have to be the instrument yourself and you're really forced to make sense of the data in your own meaningful way. There's no "calculate" button to push, and I think that uncertainty makes it difficult. But I think I've learned that's exactly why it is so rich—because you are forced to really, honestly search the data, your experiences, and your intuitions to make sense of your central phenomenon. Coming from a quantitative background, I developed my identity as a researcher primarily as someone who looks at numbers and larger-scale phenomena. But I've really begun to see how intensely complex so many issues are. I think it's going to take multiple perspectives

> *and different ways of examining the same questions to really understand urban music education [her area of primary interest]. I really see research as viewing your phenomenon with many different lenses—you can step back and examine a population as a whole, and look at their central tendencies and the ways in which several variables relate to one another, and that gives you some good information. But then, sometimes you have to zoom in—you have to really closely examine people and issues and contexts. You just can't get that information with numbers. And I see these lenses as being complementary. This has been a huge shift for me.*

Thoughtfully designed experiences can lead students to re-evaluate their identities as researchers, and revise their fundamental conceptions of research. In this instance, conducting qualitative work led this more experienced researcher to sort through her own stance as she constructed meaning from complex data sources and to understand how such inquiry provides insights about educational settings that 'zoom in' on lived experience. Pedagogical exercises such as this one, conducted over several weeks, provide a context for such transformations to occur. I conclude this article with five pedagogical moves that warrant further study and research in teaching qualitative research methods in music education.

First, qualitative research tutors rely on rich cases of music teaching and learning as substantive content for inquiry, particularly when these cases lead to an examination of common routines in music education by making the familiar strange. In this study, Swiggum's choral rehearsal and Silvey's study of student understanding in choral settings provided intriguing material to examine and discuss. Second, the use of digital video as a 'virtual space' for analytical work warrants attention. The immediacy and multidimensional nature of digital video data suits music education research particularly well, in that it enables researchers to work directly with sound, events, and talk in close proximity, and without losing nuance through transcription into another form. Third, the use of collaborative exercises for practicing analytical techniques allows beginning researchers to work together in coding the data, forming themes, and drawing interpretative threads from the data to closely related ideas. Students benefit as they build on one another's ideas, test emerging notions, and gain confidence within a supportive learning environment. Fourth, multi-movement exercises foster sustained inquiry and allow for more cogent insights to emerge as students draw from related literature, observation, interviews, and other qualitative data sources to examine a central phenomenon over time. Similar to a multi-movement musical work, themes can be more fully developed and extended. Fifth, and perhaps most important, is to focus on the researchers' developing under-standing of qualitative research concepts and processes as revealed through direct engagement in them. By studying how qualitative researchers learn the art and craft of extracting multifaceted meanings from complex data, we develop our professional capacities to understand and investigate music teaching and learning.

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Notes

1.   At the time of videotaping, Randal Swiggum was choral director at Whitefish Bay High School, Wisconsin, USA. He has given permission for his name and image to be used. This videocase was excerpted from data from a previous project (Olson *et al*., 2000).
2.   The full text: 'When David heard that Absalom was slain, he went up to his chamber over the gate, and wept and thus he said: Oh my son Absalom, my son, my son, Absalom! Would God I had died for thee, Oh Absalom, my son, my son!'
3.   Although students granted permission to cite their work, I have chosen illustrative excerpts from their writing without attributing a particular passage to individual students. Unless marked, the excerpts are drawn from the weekly responses for the pertinent phase of the project.

Notes on contributor

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